DISSERTATIO INAUGURALIS

DE

CYSTITIDE;

QUAM,

ANNUENTE SUMMO NUMINE,

EX AUCTORITATE REVERENDI ADMODUM VIRI,

D. GEORGII BAIRD, SS. T. P.

ACADEMIÆ EDINBURGENÆ PRÆFECTI;

NECNON

AMPLISSIMI SENATUS ACADEMICI CONSENSU,

ET NOBILISSIMÆ FACULTATIS MEDICÆ DECRETO;

Pro Gradu Doctoris,

SUMMISQUE IN MEDICINA HONORIBUS AC PRIVILEGIIS,

RITE ET LEGITIME CONSEQUENDIS;

ERUDITORUM EXAMINI SUBJICIT

COLINUS SIEVWRIGHT,

SCOTO-BRITANNUS,

IN EXERCITU BRITANNICO CHIRURGUS.

Calend. Aug. horâ locoque solitis.

EDINBURGI:

EXCUDEBANT JAC. BALLANTYNE ET SOCII.

1815.

c

CELEBERRIMO VIRO,

JOANNI GILLIES, L. L. D.

LITERIS ET DOCTRINA

INSIGNI,

HOC OPUSCULUM,

OBSERVANTIÆ ET GRATI ANIMI

PIGNUS,

D. D. CQUE

AUCTOR.

ROBERTO SPEID,

ARMIGERO,

DE ARDOVIE,

VIRO,

OMNIBUS VIRTUTIBUS,

PRÆDITO,

HOC,

AMICITIÆ TESTIMONIUM,

OFFERT,

COLINUS SIEVWRIGHT.

JOSEPHO LOWE, M. D.

AVO MEO CARISSIMO,

PIETATIS TESTIMONIUM,

HOC PRIMUM IN MEDICINA TENTAMEN

SACRUM

VULT,

COLINUS SIEVWRIGHT.

DISSERTATIO

INAUGURALIS

DE CYSTITIDE.

AUCTORE COLINO SIEVWRIGHT.

HUMANI corporis nullum est organum, cujus, morbi, functiones systematis magis perturbant, quam vesica urinaria. Neque ulla est pars quam haecce, quæ alias laesas esse, pleniùs clariùsque ostendit. Rebus ità sese habentibus, omnes medici peritissimi, a primis medicæ scientiæ originibus, usque ad tempora hodierna celeberrima, animos condi-

tioni urinæ quam maxime potuerunt, semper dederunt; et haec res eandem esse summi momenti sine dubio probat. Numerus morborum quibus hocce organum delicatissimum obnoxium est, æque ac consensus inter omnes corporis partes, tum medici, tum Chirurgi attentionem jure sibi vindicat. Nulla etenim morborum classis est, quibus illius scientia, hujusve solertia, ad symptomata affectiones urinarias semper sequentia removenda, pernecessaria sunt. Neque affectionum organi hujusce ulla est, quæ majus periculum, doloremque angentem inter progressum adfert, et quæ sequentia pejora necessariò reddit quam Cystitis, sive vesicæ inflammatio. Hunc in morbum gravissimum, mentem meam sedulò incubui, quia mihi ad plurima ejusdem exempla observanda de quibus postea mentionem pleniùs faciam, haud raró contigit.

Quum Cystitis forma in Idiopathica minimè saepe sese ostendat, et quum auctores

chirurgici eundem morbum symptomaticum tantùm cogitaverint, hicce, a plurimis medicis summo cum silentio omninò præteritur.

HISTORIA MORBI.

Cystitis a Culleno Celeberrimo ità definitur. "Pyrexia, Hypogastrii tensio et dolor; mictio frequens dolorifica vel Ischuria; Tenesmus."

Pyrexia quæ Cystitidem sequitur, ei, quæ in inflammationibus visceralibus generatim tenetur, simillima est. Pulsus, facie adhuc floridâ, et parvus et durus; calorque in cutis superficiem, quæ et sicca et arida restat, immodicus est. Humor, nihilominus, miseriis aegroti minimè imminutis, plus ex dolore angente, quam ex eventu felici oriens, nonnunquam sese ostendit. Aeger, tum comate, tum stupore, tum capitis dolore immodico,

tum vertigine, linguâ et alba, et foeda, et sicca, et arida existente, haud rarò laborat. Ab initio morbi, rigores iis similes ex partium internarum suppuratione orientibus, siti immodica simul invadente, gustuque singulari urinario in ore existente, in miserrimum saepè impetum faciunt. Magnâ quoque æger pro acidis liquoribus cupiditate, cui si pareat, dolores suos valdè adauget, tenetur. Sanguis detractus, si frigescere liceret, coriaceam albam, ut aliis in affectionibus inflammatoriis, ne quidem ab initio morbi tam multùm ostendit. Tumor, præcipuè horis aliquibus ex morbi impetu elapsis, in regionem Hypogastricam, cui dolores angentes adsunt, observatur. Nihilominùs in memoria tenendum esset, eundem spe minorem sæpe evadere. Vesica enim, aut urinæ secretione redacta, aut orificiis uriterum ab inflammatione clausis, aut tunica musculari vesicæ ipsius valde contracta, distentionem facilè minimè patitur.

Dolor, pressurâ tumori adhibitâ major fit; exteriùs ad inguina, sursùmque, ad renes, uriteres sequens, cursum dirigit. Ureteres et renes nisi valdè affectæ sint, testes retractione minore, quam in Nephritide tenentur; atque stupor et dolor secundum femur, minùs inquietis adferunt. Multum doloris, nihilominus, in cursu urethræ atque ad penis extremum, cupiditate præputii protrahendi invadente, adest. Dolores, autem, finibus supra dictis minime teneri, sed totum abdomen pervadere, formamque colicorum sæpè assumere, memoria dignum est. Æger, urinam reddere raro potest; cupiditas mictionis nihilo minùs maxime anget, dolorque guttarum paucarum omnem per urethram quæ liquore fervente perfundi judicatur, vix ac ne vix quidem intolerabilis est. Hoc, ex spasmo cervicem vesicæ urethramque invadente, æque ac ex eorundem inflammatione oriri, ni fallor mihi videtur. Rebus ità sese habentibus

urina reddita colore croceo gaudet, et sanguine commisceri videtur. Neque hic loci silentio praeteriendum est, Ischuriam dolentissimam, omnibusque remediis, nisi actio inflammatoria in vincula injecta esset, repugnantem, muco sub morbi finem glutinoso ex urethra progrediente, sanguine commixto, sæpissimè invadere. Tenesmus inflammationem vesicæ semper comitatur, atque dolores, quam symptomata alia, magis cruciantes, adfert. Rebus ità sese habentibus, aeger, fæcibus velut in Dysenteria in scybala, ex contractione tunicæ intestinorum magnorum muscularis orientia, factis, evacuationem alvinam vix ac ne vix quidem habere potest. Æger crura sua ad corpus, velut in Herniâ attrahit, atque quiete, cum in latus recumbat, gaudet. Neque hic loci alienum observare videtur, miserrimum positione in erecta sedere minimè saepe posse, atque labores ejus, omnem inter motum, velut tussim, vomitumque, &c.

impetu a spasmo in musculos abdominales facto, semper augeri. Æger quoque, mentis pathematis deprimentibus, anxietate magnâ, omnem inter motum, opprimente laborat. Rei biliosæ rejectio, desiderio cibi absente, dolore autem ventriculi angente, adest. Neque ullo modo obliviscendum est, sitem, ærumnis miserrimi gravissimis, omnem inter morbum ansam praebere.—Historiam imperfectam, vesicæ inflammationis supra traditam, ex exemplis quæ mihi observare contigit, facere ausus sum, et duo ex his narrare, quam brevissimè potero, memet postea accingam.

TERMINATIO MORBI.

Hic morbus, ut aliæ phlegmasiæ, vel in resolutione, vel in suppuratione, vel in gangræna, terminari potest. Harum omnium suppuratio, ni fallor, multò frequentissima est. Haec terminatio, remissione tum doloris,

tum tensionis partiali, pure cum urina commixto, rigoribus, febreque hectica supervenientibus, cognoscitur. Resolutio et gangræna, per effectus, totum in corpus facillimè discriminantur. Spem autem resolutionis, quadragesimâ horâ elapsâ, nisi urina antea reddita fuisset, fovere inane est. Vir, qui suppurationem post horam sexagintesimam expectat, aquam ex cribro haurit. Sin autem urinæ secretio diminuta esset, et symptomata nimis longè procedissent, inflammatione renum sympathica invadente, minùs periculi, quam si vesica pleniùs distenderetur, adfertur. Exitus autem, de urinæ quantitate, quam vesica tenere potest, perplurimum, sine dubio pendet. Varia enim exempla memoriæ traduntur, in quibus plurimæ fluidi libræ sine injuria teneri possent; alia autem cum libræ singulæ, symptomata imminentia citò protulerint. Schirrositas vesicæ, terminatio Cystitidis nec non habetur. Hæc res, vel apud vesicæ cervicem,

vel apud partem muscularem triangularem, inter cervicem ureterumque orificia, existentem, vel apud glandulam prostatam sese fert.

CAUSÆ.

Vis, in partes vesicæ vicinas, velut vulnera, &c. hujus morbi causa est longè frequentissima. Cystitis, præterea, inflammatione augente ex Gonorrhæa, ex stricturis in urethra, ex schirrositate prostatæ vesicæque cervicis, nec non ex Hæmorrhoideis, aliisve apud rectum tumoribus, ex fæcibus induratis quoque, ex fistula in ano, affectionibusque dysentericis, originem suam sæpissimè ducit. Acria quoque in corpus assumpta, velut Cantharides æque ac Calculi, hujusce, causæ procul dubio habentur. Neque hic loci obliviscendum est, stricturas uno in exemplo lethales, et amplificationi et sphacelo, in pene, testibus, et ve-

sica ansam praebere. Cystitis ex vulneribus vesicam ipsam penetrantibus symptomata et pauciora et minùs imminentia quam ex inflammatione aliis in partibus generat. Symptomata gravissima, ex organi supradistentione ut ex eventibus Lithotomicis felicibus apparet, oriuntur. An Cantharides, aliaque acria suos vires, organa in urinaria, vel augenda secretione, vel dotibus stimulantibus, produnt, aqua mihi hæret. Hic loci, Cystitidem, paralysi sphincteris, æque ac aliæ causæ redditionem urinæ prohibenti adscribendum esse dignum est memoriæ tradere.

DIAGNOSIS.

Diagnosis, sine mora et labore facienda sit. Sedes doloris, et Tumor et Ischuria, et urethræ irritatio, Tenesmusque Cystitidem ex Nephritide facilè distinguunt. In Nephri-

tide, dolor in regiones iliacas sese magis porrigit, aegrotusque crura sua minùs violenter in truncum attrahit. Neque nostræ rei alienum, membrum et paralysi, et stupore minùs laborare, atque in Nephritide, latus unum, morbo teneri, addere videtur. Symptomata supra dicta, deinde, si imo in pectore reposita essent, naturam morbi facillimè ostendent. Pretium operæ mentionem facere nihilominùs erit, vel aliquid symptoma generale vel aliquem rerum urinariarum morbum chronicum Nephritidi præire; Cystitidèm autem vel aliqua ex causa externa evidente, vel ex inflammatione augente plerumque orientem, repente invadere: Quum hic morbus vel a Calculo, vel ab alia re in vesica acri, vel a tumore, præsertim si Ischuria eidem præiret, suam originem ducat, diagnosis, deindè, difficilior fit. Rebus autem ità sese habentibus, a symptomatis præcipuis nostris in consiliis ut dirigamur oportet.

PROGNOSIS.

In conjiciendo de morbi exitu, partem tam maximi, structuræque delicatissimæ, invadentis; tum causis præeuntibus, tum symptomatis comitantibus, tum progressui morbi, tum effectibus in systema universum, opiniones nostræ haud dubie faciendæ sint. Quum Cystitis, forma idiopathica gaudeat, spem deinde exitûs felicioris, quam si ab ulla re irritante oriretur, sine dubio fovere licet. Rebus enim ità sese habentibus, inflammationem præsentem, in aliis autem causam excitantem, quod quidem saepissimè haud fieri potest, amovere opus est. Si morbus e fonte acrium ingestarum, urinæve retentæ, symptomatis haud violentis, urinaque facillimè detracta flueret, aeger sine dubio victoriam reportabit. Quod si vel Calculi, vel Tumores morbo ansam præbuerint,

exitus infaustus, quum causæ, Inflammatione redacta, adhuc restabunt, expectetur oportet. Nec non dignum memoria est, ut si Cystitis originem ex inflammatione sese extendente haberet, eventum feliciorem, nisi res extraneæ veluti ossis fragmentum, &c. partibus irritationem præbeant, præstolari fas est. His rebus jam jam recensitis, de quibusdam symptomatis faustis memorandi præcipua nunc breviter initium faciam. In primo igitur agmine, doloris remissio, tensionis, febrisque post profluvium urinæ liberum quamvis sanguine commistae haud dubie ponenda sunt. Mictione liberè et facilè facta, miseriæ aegri alis sese procul dubio dabunt. Evacuatio alvi nec non miserrimo solatio est. His rebus suprà dictis, quædam de infaustis breviter addam. Dolores et angentes et durantes, tremores urgentes, sudores frigidi, doloresque totum per abdomen vagantes, plurimus vomitus, singultus, anxietas, nausea, respiratioque

difficilis, apud prima pro certo enumeranda sunt. Haec omnia, procul dubio, doloribus subito cessantibus, facie Hippocratica, pulsuque tum debili, tum intermittente existentibus, sudoribus et frigidis et glutinosis caput ambientibus, mortem instantem miserrimo intentant. Suppuratio autem quum ingressa fuerit, symptomatis imminentibus nihilominus foro cędentibus, urinâque liberiùs redditâ, quod timeatur plus quam satis est, sine dubio erit. Ulcera enim vel sese patendi, febrisque hecticæ excitandæ vel formæ inflammatoriæ assumendæ potestatem habebunt. Quod si suppuratio fines intrà arctos teneri possit, aditusque eidem in anum obtinetur, systemate tunc temporis haud multum turbato, bene, a medico sperandum est. Sin autem haec eadem, ulla forma vel loco gauderet, ne sphacelatio latiùs porrigens, incursum exitialem faceret, pessimè timeatur, oportet.

RATIO MEDENDI.

Consilia medendi tria sunt. 1mo. Medicum, evacuationem urinæ elicere, si ullo modo fieri possit, decet. 2ndo. Inflammationem subigere. 3tio. Causam excitantem amovere, oportet. Haec tria consilia uno eodemque tempore, nam, rem aliam, sine alia adjuvanda, auxilio miserrimo venturam esse, haud nostrum est concipere, quam brevissimè absolvam. Venæsectio, ut aliis in morbis typo inflammatorio gaudentibus, prima in acie, sine dubio esset; quippe quæ res in systema universum et longiùs et latiùs pollet, atque facillimè peragi potest. Operatio autem, modo paululum diverso, ac aliis in Phlegmasiis, vesica præsertim distentione laborante, faciatur, oportet. Dignum quoque memoriæ est, Medicum inflammationem velut localem po-

tius quam generalem habere, atque symptomata generalia, ut ex consensu nervoso inter vesicam aliasque partes orientia, tractare decet. Hoc tempore sine dubio mihi fas erit, theoriis omnibus abjectis, mentionem facere, de re quam mihi observare saepissimè contigit; nempe, venæsectionem in Cystitide magnam, celeriterque factam usque ab initio morbi, debilitatem tum inopinatam, tum lethalem, symptomatis localibus, minùs quam a venæsectione topica, deinde sublevatis, semper creare. Sanguis detractus, atque frigescere permissus, coriaceam albam, ut supra dictum erat, minimè ostendit; atque haec res, me judice, actionem inflammatoriam, topicam, potius quam generalem, esse, indicat. Quum res ita sese habeant, sanguis, per hirudines, vel perinæo, vel regioni Hypogastricæ applicatas, ni fallor, detrahendendus esset. Vena magna ipsius penis, pene ipsa tumefacta, vasisque turgidis, et facilè, et tutò dis-

secari potest. Haec res, tum constrictioni urethræ spasmodicæ, tum vesicæ ipsæ sublevabit. Neque dubitandum est, quin copia sanguinis satis magna, a pene ipsa, fomentationibus calidis ritè, sedulóque, adhibitis, obtineri possit. Quum autem, venæsectionem topicam, bonis lateribus suadeam, meum consilium, venæsectionem generalem parvi pendere, minimè esse sedulóque caveatur. Haec res e contra, et rite, et sine mora peragenda est, cum illius compotes nequaquam esse possimus. Fomentationes quoque, tum in regionem Hypogastricam, tum ad Perinæum applicatæ, constrictioni vesicæ, ni fallor, multum auxilii ferent. In omnibus rerum urinariarum morbis, applicationes calidas, miserrimo, majori utilitati, quam frigidas esse, quippe quæ res, et spasmum et inflammationem augent, sedulò observavi. Dignum quoque memoria est, res frigidas, hoc in morbo, minimi aestimandas esse; nam hae res, nisi et lon-

gum, et constanter applicatæ (atque hæc eadem, summo sine incommodo haud fieri potest) aegro, auxilio vix, ac ne vix quidem veniunt. Ob has igitur causas, fomentationes calidæ partibus, et cautè et sedulò, et constanter, me judice adhibendæ sunt. Frigidæ, enim, symptomata, nisi animus me fallit, augent, potiùs quam diminuunt. Si aeger positionem suam mutare velit, illi calidis aquæ vaporibus uti sedenti, quippe quæ res, Tenesmum, ut in Dysenteria observatur, haud dubie licet.

Purgantia, venæsectioni hoc in morbo ni fallor remedia secunda sunt. A Medico autem ne res et acres, imasque intestinorum partes præcipue incitantes veluti aloes, &c. adhibeantur, sedulò caveatur. Haec enim ad inflammationem topicam, aeque ac morbum ipsum inducendum proclivia sunt. Neque purgantia salina viribus diureticis prædita, hac in re, nostram commendationem obtinere pos-

sunt. Submurias Hydrargyri, nisi animus fit laevis, omnium in Cystitide purgantium est facilè princeps. Hoc remedium, magnis in dosibus ut granorum XII. vel XV., opiique grano uno vel duobus conjunctum, irritationem prohibere oportet. Praeter medicamenta supra dicta, enemata emollientia summo cum fructu juberi possint. Nam haec remedia, haud solum pro purgantibus, sed etiam pro fomentationibus utilia erunt. Ex omnibus supra memoratis, Cantharides nullo modo feliciter præscribi posse, facile constat. Nec Sinapismata, nec ullum aliud Epispasticorum genus miserrimo, hoc morbo laboranti plurimum auxilii ferent.

Diaphoretica quoque, si actio eorundem, diuretica amitteretur, attentione Medici dignissima sunt. Pulvis Ipecacuanhæ compositus parvis in dosibus administratus, atque paululo Tartritis Antimonii commixtus, plurimum boni hic loci præstabit. Opium

autem nisi modo supra dicto, præscriptum, quippe quæ res, plurimam sitem, quâ indulgere periculosæ plenum opus aleæ est, crearet, summa ope evitandum est.

Diluentia, me judice parcè præscribenda sunt; nam secretionem urinæ augebunt, atque distentionem vesicæ promovebunt. Ad sitim removendam, acetum, succusve limonum in ore brevi retenta, me judice, plurimum conferent. Cobaïba, Terebinthina Canadensis, et similia, inflammatione urgente, mala sunt remedia. Haec autem, inflammatione tergum vertente, morboque suppurationem excepto, medicamentis cum diureticis commixta, atque cum diluentium abundantia adjuncta et liberè et tutò administrari possunt.

Omnibus Medicamentis, ad inflammationem amovendam inutiliter præscriptis, et præsertim si vesicæ distentio adesset, vel si timor gangrænæ medicum invaderet, puncturâ in vesica ad evacuationem obtinendam opus est.

Hæc punctura, per Rectum, et tutissimè, et facillimè, effici potest.

Si aeger ex morbo tam ancipiti convaluit, omnem intemperantiam, cibumque acrem, per longum evitare opus est. Summam ejus curam autem, tum exercitatio modica, tum cibus facile concoctus, tum canalis alimentariæ conditio, jure sibi vindicant. Res jam dictæ quoque, exemplis suppurationem subeuntibus, reque chirurgica indigentibus, me judice, auxilio venient. Morbus autem, quum Schirrositas suos incursus, signis hostilibus, fecerit, insanabilis videtur. Rebus autem ità sese habentibus, Conium Maculatum, Uvam Ursi, cum Cobaiba et dosibus submuriatis Hydrargyri parvis præscribere licet.

CYSTITIDIS CASUS.

Exemplum I.

Præfectus, quadraginta annos natus, habitu plethorico, vulnus scloppeticum accepit, quod, injuriam tum vesicæ, tum recto, ferebat. Glandulus plumbeus circiter digiti dimidium supra Symphysin Pubis penetravit, atque paululum supra Anum in obliquum egressus est. Cum omnis urina secreta per Vulnera transierit, nulla symptomata infelicia, vel ex Ischuria vel ex Tensione orientia, sed omnia alia antea memorata, sese signatè ostendebant. Oleum Ricini, ore adhibitum, per vulnus transiens, scrupulos omnes de Recti Injuria in fugam celeriter vertit. Catheterem in vesicam emittere, urethrâ tam arctè constrictâ, incassùm molitur. Hæc res, ne urina in

partes internas sese diffunderet, quippe quæ res, vix, ac ne vix quidem evitari potuit, valdè exoptanda esset. Ægroto, donec horæ quinquaginta, post injuriam acceptam, elapsæ essent, nulla erat dejectio; nihilominus, omnia Symptomata inflammatoria, die quinto minùs præterito, rebus supra memoratis, vinculis tenebantur. Urina, inter mensem dimidiatam, cursum ejus solitum capiebat, atque miserrimus, nisi quod musculi abdominis Recti, propter Sphacelum supra memoratam sese tam maximè contraxissent, ut æger vix, ac ne vix quidem, corpore erecto ambulare nequiret, atque urinam suam, vesicâ plus quam solitum est, contractâ, præter horas paucas haud retinere potuisset, penitùs convaluit. Neque dubium sit, quin Rectum nimis quoque contrahatur, nam Infelix, et Hæmorrhoe, et Diarrhæa et alvi constrictione haud rarò aborabat.

Exemplum II.

Miles, vulnus supra Symphysin Pubis accepit. Glandulus plumbeus cavitatem abdominis minimè penetravit, sed Integumentorum partem, atque ossis fragmentum attrahens, in obliquum processit. Penis ab injuria vacuus erat, atque miserrimus, horis paucissimis elapsis, sese movere potuit. Omnia autem Cystitidis symptomata, systemate tunc temporis plurimum turbato, impetum demum fecerunt, atque citra horam trigesimam et octavam, quamvis ægre repulsa, essent. His rebus factis, infelix sanitate iterum gaudebat.

Exemplum III.

Aliud exemplum, ictu effectum, sese mihi fortè offerebat. Hic loci Sphacelus factus erat, atque miserrimus, horis septuaginta minimis elapsis, mortem subiit. Dissectio, hoc in exemplo, tum de causa proxima, tum de morbi effectibus, me certiorem fecit; atque hæc brevissimè narrare, ni fallor, nostræ rei haud alienum est. Inflammatio secundum ureteres, prope ad renes cucurrisset, atque portionem vesicæ peritonealem invasisset. Quantitas vel muci, vel puris (nam mihi eadem scrutandi haud facultas erat,) minimè parva, tunicam vesicæ internam oblevit, atque nulla ejusdem pars, nisi prope ad Anum sphacelare coepisset. Glandulæ prostatæ tum amplificatio, tum Inflammatio erat; atque vesicæ cervix, et Urethra, omni ex parte, contractione tanta, tunicâ internâ tam plurimum

densatâ, ut instrumentum minimum accipere nequiret, laborabant. Tunica Recti peritonealis quoque, plurimos per digitos, inflammationem subierat, atque exuere quidem cæpisset. Fæces duratæ in curvatura Coli sigmoidea etiam repertæ erant; atque tunicæ ejusdem, æque ac Recti, densationem tantam laborabat, et eorundum diametrum contractionem tantam perpessum esset, ut digitum vix, ac ne vix quidem accipere posset. Hoc in exemplo, tensio abdominis minor ac in aliis supra traditis erat; atque hæc res, me judice, de urinæ quantitate minima vesicam intrantis, Ureteribus inflammatis, plurimum pendebat.

FINIS.

AN ESSAY

ON

WOUNDS OF THE INTESTINES.

BY THOMAS SMITH,

OF THE ISLAND OF ST. CROIX,

HONORARY MEMBER OF THE PHILADELPHIA MEDICAL SOCIETY.

................................ut si
Cæcus iter monstrare velit.........HOR.

PHILADELPHIA:

PRINTED FOR THE AUTHOR BY THOMAS T. STILES,

NO. 10, CYPRESS-ALLEY.

....

1805.

AN

INAUGURAL ESSAY,

FOR

THE DEGREE

OF

DOCTOR OF MEDICINE.

SUBMITTED

TO THE EXAMINATION

OF THE

REV. J. ANDREWS, D.D. PROVOST,
(PRO TEMPORE).

THE

TRUSTEES, AND MEDICAL PROFESSORS

OF THE

UNIVERSITY OF PENNSYLVANIA,

ON THE FIFTH DAY OF JUNE, 1805.

For
Dr Monro with the Complim
of the Author.

TO WILLIAM SMITH, ESQUIRE,

OF THE

ISLAND OF ST. CROIX;

AS A TRIBUTE

OF

GRATITUDE AND RESPECT,

THE FOLLOWING PAGES ARE DEDICATED,

BY HIS AFFECTIONATE SON,

THOMAS SMITH.

TO CASPAR WISTAR, M. D.

ADJUNCT PROFESSOR

OF

ANATOMY, SURGERY, AND MIDWIFERY,

IN THE

UNIVERSITY OF PENNSYLVANIA,

THIS ESSAY

IS INSCRIBED

AS THE GENUINE TRIBUTE OF

RESPECT, ESTEEM, AND GRATITUDE,

FROM AN OBLIGED, AND

AFFECTIONATE PUPIL,

THOMAS SMITH.

TO DR. JOHN RUAN,

OF

FRANKFORD, PENNSYLVANIA.

DEAR SIR,

Be pleased to accept of this imperfect Essay as a mark of the respect, which I entertain for your talents, as a Physician, and for the many obligations and polite attention conferred on me by your family, during my residence in this country; and be assured it will always be remembered with gratitude and esteem,

By your affectionate friend,

THOMAS SMITH.

INTRODUCTION.

IT is proposed in the following pages to take a brief view of the different methods which have been recommended for treating wounds of the intestines, to describe certain experiments, on brute animals which were made to ascertain the method most likely to prove successful, and to offer some doubts relative to the common opinions on this subject. I do not intend to enter minutely into the general mode of treating wounds of the intestines, but to confine myself entirely to the best manner of stitching them. Perhaps there are few accidents, to which surgeons are called, where they find themselves more at a loss how to proceed, than in wounds of the intestines. These circumstances, as well as the frequent fatality of such injuries, evince the great importance of the subject. It is well known

to surgeons, that the most trifling puncture, made into the cavity of the abdomen, is apt to induce very serious consequences, from the tendency which the peritonæum has to inflame, when slightly injured; how much must the danger be increased when an intestine is wounded, and an opening produced, through which its contents may pass into the cavity of the abdomen. We are, however, told by a celebrated author,* that there is very little to be apprehended from this circumstance, on account of the equable pressure which is always kept up in the abdomen by the viscera. But I hope to prove from experiment, that his ideas were not altogether correct on that subject. The invaluable work on hernia, of Mr. Astley Cooper, gave rise to this essay, and the ingenious observations of Messrs. Cooper and Thompson, respecting the difference between the consequences of longitudinal and transverse wounds of the intestines, induced me to attend particularly to that part of the subject.

* Mr. John Bell.

AN INAUGURAL ESSAY.

WOUNDS of the intestines may be known by a passage of blood from the mouth and anus, as well as by the discharge of fœces and fœtid air from the external wound, and they ought to be suspected, when nausea, vomiting, violent griping, pains through the abdomen, cold sweats or faintings occur after, penetrating wounds of that cavity. The intestines are sometimes wounded without protruding through the external wound: in such cases it would be of very little advantage to know, whether the wound was transverse or oblique; for the method to be pursued must be similar to that in simple penetrating wounds of the abdomen, viz. blood-letting and a low diet. Some authors recommend dilating the external wound, and searching for the injured bowel; but the danger arising from

penetrating wounds in the abdomen, of all sizes, is so great, that in no instance ought it to be attempted, as there are cases on record of persons recovering from a wounded bowel, without having been under surgical treatment. It is, therefore, only in cases, where the wounded intestine is protruded that the suture can be properly applied. The different kinds of sutures which have been recommended, have all had their advocates; the most ancient, and that which appears to have been most generally used is termed the glovers suture, which I shall now take the liberty of describing. In making this suture, a fine small round needle should be used armed with a silk thread, which has been previously waxed. The surgeon bringing the lips of the wound in contact, perforates both edges at the same time, and carrying the needle to the same side at which it entered, he must make a second stitch, at a small distance from the first, perhaps the eighth of an inch, and in the same manner by a proper number of stitches, must close the wound throughout its whole extent. This being done, a sufficient length of thread is left out at the external wound for the purpose of drawing it away, when we suppose the wound of the

intestine to be united, which is generally completed in six or seven days: in withdrawing the ligature care should be taken to do it very gently, least we should destroy the adhesions which have taken place. This mode of stitching a wounded intestine, is certainly a very complicated process, and should be dispensed with in every instance for a more simple one.

A more modern method has been spoken of by Mr. Ledran, which is termed the looped suture. To make this suture, an assistant takes hold of one end of the wound whilst the surgeon does the same with the other, and the needles, which should be round, straight, and small, carrying each of them a thread a foot long, and not waxed, must be equal in number, to the stitches intended to be made: as many threads are now to be passed through both lips of the wound as are thought necessary, taking care that they are a quarter of an inch distant from each other. All the threads being passed, the needles are to be withdrawn, and the ends of the threads on each side are tied, after which, joining them together they are twisted into a sort of cord: by this means, the divided portions of in-

testine are drawn into pleats, so that the stitches which were distant about a quarter of an inch are now brought together, and thus the lips of the wound are prevented from separating. The ligatures are to be fastened to the external dressing, afterwards they remain until the wound in the intestine is healed; they are then to be untwisted, and all the ends cut off on one side; after which they must be withdrawn slowly and separately. The same objection may be applied here as in the glovers suture, this is certainly a more complicated process, and it increases the danger of the operation, by lessening the diameter of the intestine, thereby occasioning dangerous obstructions.

Mr. John Bell, has recommended in wounds of the intestine, that we should only use one single stitch, which should be passed through the wounded bowel, and then drawn through the integuments of the abdomen at the external wound. But notwithstanding what Mr. Bell has said, of the equable pressure which is kept up among the viscera, preventing the fœces from being shed into the cavity of the abdomen; I must, however, beg leave to differ from him, for in

the experiments which I performed, I found that treating the intestine in this manner was not sufficiently secure for preventing the fœces from escaping into the abdominal cavity.

The following suture has also been proposed in a complete division of the intestine.* It was first recommended by Mr. Ramdhor in cases of hernia, where a portion of the intestine had been destroyed by mortification....In these cases, he has advised *to extirpate the diseased part*, and to introduce the upper portion of the sound intestine within the lower, for about an inch, and to confine it there by sewing it once or twice round with a fine needle and thread; but besides the difficulty of knowing which is the upper or lower portion in wounds of the intestines. I find that it never can be performed on the living subject, as will appear by the ninth experiment, for immediately upon making the section of the intestine, the divided parts became so much inverted, as to render the introduction of one within the other utterly impossible. The method which appears to promise most success, is that recom-

* Mr. Benjamin Bell speaks highly of it in his System of Surgery.

mended by Mr. Astley Cooper, in his work on hernia, in that part wherein he treats particularly of mortification of the intestine. He directs, that the injured part should be removed, and the divided portions brought into contact, and secured by four stitches, one being at or near the mesentery, and the others at equal distances from each other.

This method is certainly the most safe and simple of any that has yet been spoken of, and will no doubt in time be generally adopted. Perhaps four or five stitches will be found sufficient in most instances of a complete division of the intestine. But we should be careful not to use more than are really necessary, for it has been observed, that puncturing the intestine frequently increases the danger of the operation very much.

In order to decide between these different methods, I determined to institute a series of experiments upon dogs by wounding their intestines, and uniting them with the various sutures above stated. I am aware, that it is not easy to determine with precision the treatment

proper for the human species, by inferences derived from the dog; but the analogy in the present instance appears to me very strong. I shall in the next place commence, by relating my experiments.

EXPERIMENT I.

APRIL 7.

ASSISTED by my friend Mr. Klapp, an incision was made into the abdomen of a dog, and one of the small intestines; having been brought into view, a transverse section was made into it, and the wound secured by four stitches, one at the mesentery, and the other three at equal distances from each other, the threads were then cut off at the knots, and the external wound closed by the interrupted suture.* The animal did not appear to have suffered materially from the operation, for in twenty four hours he took food, and after the first day exhibited no symptoms of indisposition. On the 30th, he was kil-

* The interrupted suture was used in every instance, for securing the external wound, unless particularly mentioned.

led, the wound of the intestine was found completely healed; the place at which the intestine had been divided, appeared somewhat thickened, considerable adhesions were observed among the small intestines. Three of the ligatures had disappeared, the other was still remaining loosely attached to the internal coat, and probably would have been discharged in the same manner as the others, had the dog been permitted to live a few days longer.

EXPERIMENT II.

APRIL 7.

ON another dog, I repeated the same operation, with this difference, that the ligatures which had been cut off in the preceding experiment at the intestine, were now left out at the external wound, in case it should be necessary to withdraw them. In consequence of the restlessness of the animal during the operation, considerable violence was done to the parts, before they could be reduced. On the second day after the operation, the dog appeared so ill as to make his recovery doubtful: On the 4th day,

it was thought proper to remove the ligatures; after this he appeared better and took nourishment. On the 19th, he was killed: upon laying open the abdomen, the effects of inflammation were still obvious. The omentum was found adhering to the parietes of the abdomen, and very much indurated. Preternatural adhesions had taken place among all the viscera, but more particularly in the small intestines, which were knotted and twisted together in an astonishing manner. The intestine at the place where the wound had been made was not quite united.

EXPERIMENT III.

APRIL 9.

SEVERAL of my friends honoured me with their attendance, whilst the following experiments were performed; the abdomen of a dog having been opened, and the small intestines brought into view, a longitudinal incision of about an inch and a half was made parallel with the mesentery, which was secured by four stitches, and the intermediate spaces sewn with a fine thread to prevent the fæces from escaping into the

cavity of the abdomen :* the threads were cut off at the intestine. The animal died in about thirty six hours. On dissection the marks of inflammation were found much less than might have been expected.

The wound in the intestine was completely torn open, excepting at one stitch.

EXPERIMENT IV.

APRIL 9.

A FULL grown dog was submitted to the same experiment as the former with this difference, that the intermediate spaces between each stitch were left unsewn. Six hours after the operation, the animal vomited stercoraceous matter, appeared dull and drowsy. On the 10th, in consequence of food being offered, of which he took a small quantity, vomiting was again excited. On the 12th, he took food, and from that time appeared to be doing well. Seven days after he was killed ; on opening the abdomen the omentum was found adhering to the site of the ex-

* According to the proposal of Thompson of Edinburg.

ternal wound, being confiderably indurated. The mesenteric glands were enlarged. The wound in the intestine was not completely united, two of the ligatures had disappeared. The other two still remained; the wounded gut had adhered to the mesentery and adjoining portion of intestine.

EXPERIMENT V.

APRIL 10.

ON a full grown tarrier, I repeated the former experiment wishing to see, whether a longitudinal incision could not by great care and attention, be so managed, as to do away the opinion of its being universally fatal. To effect which, a very small opening was made through the parietes of the abdomen, and a portion of intestine, being brought into view, it was divided longitudinally for about two inches, and afterwards secured by six stitches which were cut off at the knots. The parts having been rereturned, the lips of the external wound were brought together and secured by adhæsive plaister.* The animal did not appear to have suffer-

* For it was observed, that the ligature used for securing the external wound increased the inflammation very much.

ed in the least from the operation, for in less than twenty four hours he took food and has continued doing well ever since.

EXPERIMENT VI.

APRIL 16.

PLEASED with my success in the preceding experiment. I obtained another dog and opened his abdomen, in one of the small intestines. I made a longitudinal wound for about three inches, and treated it in every respect similar to that related above. This animal appeared to have suffered very little more than the other, considering the extent of the wound, for in about twenty eight hours he eat and continued doing so untill the tenth day after the operation, when he refused nourishment. Two days after he died, on examination, it was found that the wound had healed completely, but directly above the wound a bone half an inch long, and nearly as broad, was discovered to have perforated the intestine.*

* This must have been owing to a diminution of the intestinal canal which is always produced by longitudinal wounds of the intestines.

EXPERIMENT VII.

APRIL 16.

WISHING to know how much of the intestine might be removed, without much endangering the life of the animal, I performed the following experiment: having obtained a full grown dog, an incision was made into the cavity of the abdomen, two inches of one of the small intestines were removed; the divided portions were then brought together, and the wound was treated as the transverse incisions had been. In dissecting off the divided portion of intestine; some of the branches of the mesenteric arteries were wounded, but did not bleed during the operation. On visiting him in the afternoon, I found there had been a considerable hemorrhage which still continued. I did not open the wound, but applied a piece of wetted linen to the parts, which had the desired effect. On the 18th, the belly being somewhat tense, two of the external ligatures were cut away, that the blood, should any have collected, might be discharged; but the wound did not open, and the dog soon resumed the appearance of perfect

health, which continued without interruption until May 6, when he was killed. The divided portions of intestine were found united, and the ligatures had been all discharged.*

EXPERIMENT VIII.

APRIL 16.

HAVING opened the abdomen of a pointer pup, three inches of intestine were excised, the arteries being secured, the intestine in other respects, was treated as the last had been. In twenty minutes after the operation, he vomited the food which he had taken in the morning, and appeared dull the remaining part of the day. Three days after the operation, he took food, and continued doing well. May 6th, he was killed, and the abdomen being opened, it was with difficulty I could ascertain where the divison had been; the coats of the intestine appeared somewhat thickened; one of the ligatures remained attached internally.

* The viscera in this experiment appeared much more natural than in any other, probably from the hemorrhage that took place, which shews the propriety of bleeding largely in such cases.

EXPERIMENT IX.

APRIL 18.

HAVING divided the intestine of a dog transversly, I attempted to treat it in the manner spoken of by Mr. Ramdohr, viz. by introducing the upper extremity of the divided intestine within the lower; after having procured a piece of candle, as directed by him, it was inserted into that portion of intestine, which was supposed to be the uppermost. I then endeavoured to introduce the superior within the inferior, but the extremities of each became so inverted, that it was found utterly impossible to succeed, it was therefore given up and treated in the way recommended by Mr. John Bell, using only one stitch, and fastening it to the parietes of the abdomen. The dog took food the day after. On the 20th, it was observed that the fæces were discharging at the external wound, when the animal appeared very weak, but still continued to take food. On the 21st, he was much worse, and the abdomen being tense, the ligatures at the external wound were removed to facilitate the discharge of the fæces which gave a temporary relief. On the 22nd, he died. On examination there was found

a considerable quantity of fæces and water in the abdominal cavity. One portion of the intestine had united to the external wound through which part of the fæces were discharged.

EXPERIMENT X. & XI.

APRIL 28.

WISHING to give Mr. John Bell's method of stitching an intestine a fair trial, I made the following experiments: having obtained two full grown dogs, a transverse incision was made into the intestines of each of them, which was secured by one stitch and fastened to the wound. No. 10, died in about twenty-four hours. The marks of inflammation were very great, and the fæces had been discharged into the abdomen. No. 11, died on the 2nd of May. The intestines appeared very much inflamed, fæces as in the other instances were found in the abdomen, also water which the animal had drank. The large intestines appeared gangrenous and tore very easily.

EXPERIMENT XII.

A POINTER pup of about two months old was submitted to the following experiment: a triangular piece was cut out of one of the small intestines, and the wounded intestine sewn to the parietes of the abdomen. The animal very soon showed symptoms of indiposition and died in thirty hours. On examination the peritonæum and all the viscera of the abdomen were found considerably inflamed, a quantity of water was also in the cavity.

It appears then from the result of my experiments on dogs, that not only the intestine may be returned into the cavity of the abdomen, but that the ligatures may be cut off and returned with the intestine,* and that we need not be under any apprehension of their being discharged into the cavity, for by some process of the animal œconomy of which we are ignorant, the ligatures have in every instance either been discharged with the fæces or been found loosely attatched to to the internal coat of the intestine. It has been

* As was observed by Mr. Thompson of Edinburgh.

said by Messrs. Cooper and Thompson, that there is a curious difference in the facility with which a longitudinal and transverse wound of the intestine unites. But in all the experiments which I have made, it was found that with care the longitudinal united as kindly as the transverse, only requiring a little more attention to the diet of the animal, which should be very sparing and liquid until the wound has had time to heal. It certainly requires more pains to close a longitudinal wound of the intestine completely, than one which is transverse. The longitudinal incision always occasions a diminution in the diameter of the intestinal canal, thereby produciug dangerous obstructions. If it should be of any considerable extent, probably the surgeon would be justified in cutting out the wounded portion and treating it as a transverse division. This may be done without much endangering the life of the animal, as appears by two experiments where three inches of the intestine were removed.

THE END.

ERRATA....Page 13, for fætid, read fœtid....16, for fœces, read fæces....In the ninth line from the bottom of the same page, read intestines for intestine.